Powered By UIMG

UIMG Setting code User Manual

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Turn -off

Turn-on

Chapter 1 Setting code turn-on/off

If to make use of setting code, the reading device must startup the function of setting code at first, that is, to read the startup code “turn on ” first on the top. Read the close code “turn off” after the setting; that is to turn off the function of setting.

Attention: when the function of setting code is under the state of startup, the reading device will automatically turn off the function of setting code if it read the non-setting code.

Chapter 2 Setting code step-by-step demo

Demo 1: Enable PDF417 by setting code

------〉

----〉

Turn on setting-code Enable PDF417 Turn off setting-code

Demo 2: Setup reading sensitivity to be 10

------〉

------〉

Turn on setting-code set sensitivity to be 10 1

------〉

------〉

------〉

0 Save Turn off setting-code

Turn -off

Turn-on

Chapter 3 Overall Setup

3.1 Save and cancel

Save

Abort One Data of Current Setting

Abort One String of Current Setting

Abort Current Setting

3.2 Hex Numbers

0

1

2

3

4

5

6

7

Turn -off

Turn-on

8

9

A

B

C

D

E

F

Turn -off

Turn-on

3.3 Overall selections

Set All Default **

Save to user default

load user default

Disable All Bar Codes

Enable All Bar Codes

Disable All 1D Bar Codes

Enable All 1D Bar Codes

Disable All 2D Bar Codes

Enable All 2D Bar Codes

Turn -off

Turn-on

3.4 Double-1D selections

1D Bar Codes only read one code **

1D Bar Codes only read two codes（the same type）

1D Bar Codes read the one or two codes（the same type）

3.5 User-defined setting-code

Default setting-codes perform fundamental functions such as enable and disable.

User-defined setting-codes integrate numerous fundamental functions. It makes complex and repetitive setting to be one setting-code.

Batch setting-code: It can set numerous parameters (setting-codes), and save them to user default. The “enable batch setting-code mode” should be read before reading of batch setting-code. Making User-defined setting-code refers to Chapter 11.

Set product ESN number: make a User-defined setting-code containing product ESN number. Use the ESN setting-code by reading the “enable product ESN setting”

Enable batch setting-code mode

Enable product ESN setting

Turn -off

Turn-on

3.6 Message of setting code to send Setup

Don’t Transmit Setting Code

Transmit Setting Code

3.7 Message of system to send Setup

Send message related to system

Don’t display when power on **

Display when power on

Turn -off

Turn-on

Chapter 4 Communication

4.1 Communication type selections

Note: Device must have certain module to support the communication modes.

USB-DataPipe: only for EM2027 and HR200；
HID-KBW: only for EM1030-USB、EM2027 and HR200；
BlueTooth: only for HR200；
USB COM Port Emulation: only for EM2027 and HR200。

RS232

USB-DataPipe

HID-KBW

BlueTooth

USB COM Port Emulation

Turn -off

Turn-on

4.2 RS232 selections

Baud Rate setting

Baud Rate sends the data from the reader to the terminal at the specified rate. The host terminal must be set for the same rate as the reader. Range from 1200bit/s to 115200bit/s.

1200

2400

4800

9600 **

14400

19200

38400

57600

115200

Turn -off

Turn-on

Verify selection

There are 3 types of verify modes: No verify, Even verify and Odd verify. Client must use the same verify modes to ensure the reliability of data.

No verify **

Even verify

Odd verify

Word length stop bits selection

1 stop bit **

2stop bits

Word length data bits selection

This selection allows you to set the word length at 5, 6, 7 or 8.If an application requires only ASCII Hex characters between 0x00 and 0x7f, select 7 data bits. For applications requiring use to the full ASCII set, select 8 data bits per character.

5 data bits

6 data bits

7 data bits

8 data bits **

Turn -off

Turn-on

4.3 HID-KBW selections

NOTE：HID-KBW selection is only available for EM1030、EM2027 and HR200。

Keyboard country

Country	NO.	Country	NO.
U.S(default)	0	Norway	15
Belgium	1	Poland	16
Brazil	2	Portugal	17
Canada(French)	3	Romania	18
Czechoslovakia	4	Russia	19
Denmark	5	SCS	20
Finland(Sweden)	6	Slovakia	21
France	7	Spain	22
Germany/Austria	8	Sweden	23
Greece	9	Switzerland(German)	24
Hungary	10	Turkey F	25
Israel(Hebrew)	11	Turkey Q	26
Italy	12	U.K	27
Latin-American	13	Japan	28
Netherlands(Dutch)	14		

Caps Lock

When enabled, the digital scanner inverts upper and lower case characters on the bar code as if the Caps Lock state is enabled on the keyboard. This inversion is done regardless of the current state of the keyboard’s Caps Lock state.

Off **

On

Turn -off

Turn-on

Unknown Characters Beep

Unknown characters are characters the host does not recognize. When Unknown Characters Beep OFF is selected, no error beeps sound. When Unknown Characters Beep ON is selected, if bar codes contain unknown characters, an error beep will sound.

Off **

On

Emulate Keypad

When enabled, all characters are sent as ASCII sequences over the numeric keypad. For example ASCII A would be sent as “ALT make” 0 6 5 “ALT Break”.

Disable **

Enable

Convert Case

When enabled, the digital scanner converts all bar code data to the selected case.

No Case Conversion **

Convert All to Upper Case

Convert All to Lower Case

Turn -off

Turn-on

USB Keystroke Delay

This parameter sets the delay, in milliseconds, between emulated keystrokes. Scan a bar code below to increase the delay when hosts require a slower transmission of data.

No Delay **

Medium Delay (20 msec)

Long Delay (40 msec)

Numeric Keypad Mode

Send numeric characters as if entered from a numeric keypad.

Off **

On

Ctrl + ASCII Mode

The digital scanner sends key combinations for ASCII control characters for values 00-1F. Refer to Keyboard Function Relationships.

Off **

On

Turn -off

Turn-on

Keyboard Function Relationships

Function	ASCII Value(HEX)	Full ASCII "CTRL"+
NUL	00	2
SOH	01	A
STX	02	B
ETX	03	C
EOT	04	D
ENQ	05	E
ACK	06	F
BEL	07	G
BS	08	H
HT	09	I
LF	0A	J
VT	0B	K
FF	0C	L
CR	0D	M
SO	0E	N
SI	0F	O
DLE	10	P
DC1	11	Q
DC2	12	R
DC3	13	S
DC4	14	T
NAK	15	U
SYN	16	V
ETB	17	W
CAN	18	X
EM	19	Y
SUB	1A	Z
ESC	1B	[
FS	1C	\
GS	1D	]
RS	1E	6
US	1F	

The last five characters in the Full ASCII "CTRL"+ column ([\] 6 -), apply to US only. The following chart indicates the equivalents of these five characters for different countries.

Country	Codes				
United States	[	\	]	6	-
Belgium	[	<	]	6	-
Scandinavia	8	<	9	6	-
France	^	8	$	6	=
Germany		Ã	+	6	-
Italy		\	+	6	-
Switzerland		<		6	-
United Kingdom	[	¢	]	6	-
Denmark	8	\	9	6	-
Norway	8	\	9	6	-
Spain	[	\	]	6	-

Turn -off

Turn-on

4.4 BlueTooth Selections

Note: BlueTooth parameter setting is only available for devices with BlueTooth interface, namely HR200.

Reset

Set device name (Max. 16 characters)

Disable password verify

Enable password verify

Password setting (Max. 6 characters)

Turn -off

Turn-on

Chapter 5 Hardware selections

5.1 Light Mode selections

LED Flash When Scan **

LED Always On

LED On When Scan

LED Always Off

5.2 Aiming Mode selections

LED Flash When Scan **

LED Always On

Sense mode

LED Always Off

5.3 Decoding Voice selections

Off

ON **

Turn -off

Turn-on

Chapter 6 Data Format

6.1 All prefix and suffix selections

Order of data format:
CodeID prefix **+** AIM suffix **+** self-prefix **+** data message **+** self-suffix **+** terminator

Disable: set not to add prefix and suffix to all decoding message.
Enable: set to add prefix and suffix to all decoding message.

Disable All Prefix and Suffix **

Enable All Prefix and Suffix

6.2 Prefix order selections

Default prefix order：CodeID prefix **+** AIM prefix **+** self-prefix

CodeID+AIM+ self-prefix

CodeID+ self-prefix +AIM

AIM+CodeID+ self-prefix

AIM+ self-prefix +CodeID

Self-prefix +CodeID+ AIM

Self-prefix +AIM+ CodeID

Turn -off

Turn-on

6.3 Self-prefix selections

Disable self-prefix: ignore user-defined prefix when decoding

Enable self-prefix: decode all digit including user-defined prefix

Set user-defined prefix: Prefix should be used with the code of “Hex Number” and “Save”. Maximum digit length of prefix is 10 characters. To set self-prefix, firstly refers self-setting to ASCII table for prefix hex characters. Secondly, read the “Define Self-prefix” code as bellow. Thirdly, read prefix hex characters in order. Finally, read “Save” code.

For example, set pre-fix to be “CODE” (ASCII hex value is 43 , 4F , 44 , 45), the “Define Self-prefix” code as bellow should be read, then data code 434F4445 should be read. To complete the setting read “Save” code.

Disable Self-prefix **

Enable Self-prefix

Define Self-prefix

6.4 Self-suffix selections

Disable self-suffix: ignore user-defined prefix when decoding

Enable self-suffix: decode all digit including user-defined prefix

Set user-defined suffix: Suffix should be used with code of “Hex Number” and “Save”.. Maximum digit length of suffix is 10 characters. To set self-suffix, firstly refers self-setting to ASCII table for suffix hex characters. Secondly, read the “Define Self-suffix” code as bellow. Thirdly, read suffix hex characters in order. Finally, read “Save” code.

For example, set suffix to be “CODE” (ASCII hex value is 43 , 4F , 44 , 45), the “Define Self-suffix” code as bellow should be read, then data code 434F4445 should be read. To complete the setting read “Save” code.

Disable Self-suffix **

Enable Self-suffix

Define Self-suffix

Turn -off

Turn-on

6.5 AIM selections

Disable: decode without AIM prefix.
One character mode: decode add one AIM digit, which is “c”
Two character mode: decode add two AIM digits, which is “cm” Full mode: decode add all AIM digits, which is “]cm”

Disable **

Only Enable One Character

Only Enable Two Characters

Enable All

6.6 CodeID selections

Disable **

Enable

All codes use default CodeID

Turn -off

Turn-on

6.7 Define 1D Code ID

Refer to Appendix B for ASCII table, fine the ID you wanted then go to Appendix A for Hex table. For example: to set J as code ID for Code 128. Scan “ CODE 128 ” first, find “J” at ASCII table position 6A, then go to Hex table to scan “ 6 ”, “ A ” and “ Save ”

There is only one byte for each Code ID.

CODE128

UCC/EAN-128

EAN-8

EAN-13

UPC-E

UPC-A

Interleaved 2 OF 5

China Post25

Code39

CODABAR

Code93

Turn -off

Turn-on

6.8 Define 2D Code ID

CodeID setting for 2D barcode should work with the code of “Hex Number” and “Save”. One CodeID can set one digit。 The setting process is check ASCII table for hex data, and read the relevant setting code as follows, then read data code accord with hex data, lastly read save code to complete the process.

For example, set PDF417 CodeID to be “r” (ASCII hex value for “r” is 72). The code “PDF417” as follows should be read, and then read data code “7”and “2”. Read save code to complete the process.

PDF417

QR Code

Aztec

DataMatrix

6.9 Data Packaged selections

Unpackaged **

Normal Packaged

ESC_Bank package

Blue2D package

Normal Package：

[STX + ATTR + LEN] + [AL_TYPE + DATA] + [LRC]

| | | | | |

0x02 0x00 data length 0x36 data checkout

Turn -off

Turn-on

LRC：0xFF+STX+ATTR+LEN+AL_TYPE+DATA's all characters running XOR operation

ESC_Bank Package：

[STX] + [DATA] + [ETX] + [BCC]
| | | |
0x02 data 0x03 checkout

BCC：DATA + ETX's all characters running XOR operation

Blue2D Package：

[**:** + (CODE ID) + (LEN) + **:**] + [DATA] + [CODE TYPE]
| | |
data length data description of barcode type

Note: Something inside "( )" is optional.

Turn -off

Turn-on

6.10 Intercept message selections

Disable: set not to intercept decoding message

Enable: set to intercept decoding message

Setup to Intercept Message: it must be used with the combination of digit code and storage code. Attention: for 1D barcode it is at most to intercept 5 segment of data message, while for 2D barcode, 3 segment of data message.

Method to Setup:

1D barcode: first to check up the list of type order, in order to get the type sequence number of barcode to set, for device to read the code of" Setup to Intercept Message" in below, then to read three places of decimal system related to type sequence number. And the direction to intercept each segment in turn, 0 means to count forwards, and the rest to count backwards, 3-bit number of decimal system for startup and terminal, at last to read storage code able to complete its setting. Attention: the upper limit value for startup and terminal position of 1D barcode is 127.

2D barcode: basically it is the same to the 1D barcode, except that its startup and terminal expressed with 6-bit decimal system respectively, for example, the startup position is a number of XXXX, its transform of 6-bit decimal system number is 0XX0XX. Be aware: the upper limit value for both of startup and terminal position of 2D barcode is 9999.

Example 1: the method to get digit at no. 1 to no. 3 places and the last 4 places only to set EAN-13:

(1) read the code of Setup to Intercept Message

(2) check up the list of type sequence number, get the sequence number of EAN-13 is 005

(3) read data code of the number below in turn

00 5	00 0	00 1	00 3	00 1	00 4	00 1
Sequence number of type	Count forwards	No.1	No.3	Count backwards	No.4	No.1

(4) read save code to complete setting

Example 2: the method to get digit from no. 1 to no. 20 places and from no. 113 to no. 140 places only to set QR:

(1) read the code of Setup to Intercept Message

(2) check up the list of type sequence number, get the sequence number of QR is 033 (3) read data code of the number below in turn

033	000	000 001	000 020	000	001 013	001 040
Order of type	Direction	No.1	No.20	Direction	No.113	No.140

(4) read save code to complete setting

Disable **

Enable

Method to set intercept message

Turn -off

Turn-on

6.11 Terminator selections

Disable: decode with out terminator suffix

Enable: decode include terminator suffix.

Set terminator suffix: should work with the code of “Hex Number” and “Save”. Maximum terminator suffix length is 2 characters. The process is check hex digits in the ASCII table. Read “User Define” code as follows. Then read hex digits in order. Lastly read save code to complete the process.

For example, set terminator suffix to be CR/LF（ASCII hex digit are 0D and 0A）. Read the “User Define” code as follow. And then read hex digits “0”,“D”,“0” and “A”. read save code to complete the process.

Note: please setup the terminator suffix after data digits are edited and packed.

Disable **

Enable

User Define

Turn -off

Turn-on

Chapter 7 Decoding Mode selections

7.1 Reading mode selections

Types of reading modes: Trigger, Auto Scan and Continue Scan

Trigger: trigger to read. The system is off when reading completed or no trigger.

Auto Scan: system goes on non-stop reading.

Continue Scan: First trigger enable reading. The system turns off at the next trigger.

Trigger **

Auto Scan

Continue Scan

7.2 CMOS Sensibility selections

Sensibility：the sense to the environment when the module under “auto scan” mode。

Low

Normal

High **

Higher

Set value of sensitivity (Max. 20)

Turn -off

Turn-on

7.3 Delay Time selections

Under Auto Scan mode, LED will be on when CMOS sense bar code, which will last for 2000ms if not read successfully. For same bar code, system will delay 1500ms to avoid duplicate reading.

For example: to change delay time to 2350ms,
Step 1: scan “Delay Time of Each Reading”
Step 2: scan “ 2 ”, “ 3 ”, “ 5 ”, “ 0 ” and “ Save ”.

Delay Time of Each Reading

No Duplicate Reading **

Completely delay：Don’t read the same code within a certain period.
Incompletely delay : It is not of absoluteness for the time to read a same barcode, that is, still able to read the same barcode even when the environment around is changed. For example: to put a barcode within a reading area, remove it away after reading and return to the area again, it is still able to read just the same even though it does not yet reach the same enactment time to read the code.

Incompletely delay **

Completely delay

7.4 Vibration motor control parameters selections

NOTE: It is only available for PD6331.

Turn off **

Turn on

Set time of vibration (0~20000ms)

Turn -off

Turn-on

Chapter 8 1D Symbologies Setup

All available 1D codes are: CODE 128、UCC/EAN-128、EAN-8、EAN-13、UPC-E、UPC-A、INTERLEAVED 2 OF 5、ITF14、ITF6、China Post25、CODE 39、CODABAR、CODA93.

Message Length

In order to reduce the chances of a misread, the best way is to predefine data length in advance. Please read below bar code Setup to define both minimum length and maximum length according to your requirements. And pay attention to the following notes:

1. Both minimum and maximum lengths must not be zero.
2. Minimum length should be smaller than maximum length.
3. If both minimum length and maximum lengths are the same, read one length only.
4. The maximum length for any 1D bar code should be not more than 127. 5.

“Save” is required after reading the code above.

e.g.: Decode only those bar codes with 8 to 12 characters.

Min. Length = 8 Max. Length = 12

Step 1: Find the bar code type
Step 2: scan “Min. Length”
Step 3: scan “8”, see Appendix A
Step 4: scan “Save”
Step 5: san “Max. Length”
Step 6: scan “1”, “2” and “Save”

Turn -off

Turn-on

8.1 CODE 128

Set All Default **

Disable

Enable **

Min. Length (1)

Max. Length (48)

Turn -off

Turn-on

8.2 UCC/EAN-8

Set All Default **

Disable

Enable **

Don’t Transmit Check Digit

Transmit Check Digit **

2 Digit Addenda OFF **

2 Digit Addenda ON

5 Digit Addenda OFF **

5 Digit Addenda ON

Don’t Extend To EAN-13 **

Extend To EAN-13

Turn -off

Turn-on

8.3 EAN-13

Set All Default **

Disable

Enable **

Don’t Transmit Check Digit

Transmit Check Digit **

2 Digit Addenda OFF **

2 Digit Addenda ON

5 Digit Addenda OFF **

5 Digit Addenda ON

Turn -off

Turn-on

8.4 UPC-E

Set All Default **

Disable

Enable **

Don’t Transmit Check Digit

Transmit Check Digit **

2 Digit Addenda OFF **

2 Digit Addenda ON

5 Digit Addenda OFF **

5 Digit Addenda ON

Turn -off

Turn-on

Don’t Transmit First ‘0’**

Transmit First‘0’

Don’t Extend To UPC-A **

Extend To UPC-A

Turn -off

Turn-on

8.5 UPC-A

Set All Default **

Disable

Enable **

Don’t Transmit Check Digit

Transmit Check Digit **

2 Digit Addenda OFF **

2 Digit Addenda ON

5 Digit Addenda OFF **

5 Digit Addenda ON

Don’t Transmit First‘0’ **

Transmit First ‘0’

Turn -off

Turn-on

8.6 INTERLEAVED 2 OF 5

Set All Default **

Disable

Enable **

Min. Length (4)

Max. Length (80)

No Check Digit **

Validate Check Digit, But Don't Transmit

Validate Check Digit, and Transmit

Turn -off

Turn-on

Define Fixed Length

Disable Fixed Length **

Enable Fixed Length

Define Fixed Length (Range): To enable read “Interleaved 2 OF 5” code at fixed length or in-between a length range. Data code and Save code should be used in the setting. Please note there are maximum 32 fixed lengths (even in-between 2 and 64) can be selected. Every length is valued by 3 decimals. Please see the following examples.

Example 1, set to read “Interleaved 2 OF 5” code at fixed length 18. Firstly to read the barcode “Define Fixed Length (range)” as bellow. Then to read Hex Number for “0”, “1”, “8”, and Save code.

Example 2, set to read “Interleaved 2 OF 5” code in-between length of 12 and 24. Firstly to read the barcode “Define Fixed Length (range)” as bellow. Then to read Hex Number for “0”, “1”, “2”, “0”, “2”, “4”, and read Save code to complete. Please note that the start should be less than the end.

Cancel Defined Fixed Length (range), to shield a fixed length or a length rage under the status of fixed length reading. The setting process is just the same as above process.

Define Fixed Length (range)

Cancel Define Fixed Length (range)

Turn -off

Turn-on

ITF Setup

Set All Default **

Decode ITF14 but don’t transmit check digit

Decode ITF14 and transmit check digit

Don’t decode ITF6 **

Decode ITF6 but don’t transmit check digit

Decode ITF6 and transmit check digit

Turn -off

Turn-on

8.7 China Post25

Set All Default **

Disable **

Enable

Min. Length (4)

Max. Length (80)

No Check Digit **

Validate Check Digit But Don't Transmit

Validate Check Digit and Transmit

Turn -off

Turn-on

8.8 CODE 39

Set All Default **

Disable

Enable **

Min. Length (1)

Max. Length (48)

Turn -off

Turn-on

Don’t Transmit Start/Stop Characters

Transmit Start/Stop Characters **

No Check Character **

Validate Check Character, But Don’t Transmit

Validate Check Character, and Transmit

Disable Full ASCII 39 **

Enable Full ASCII 39

Turn -off

Turn-on

8.9 CODABAR

Set All Default **

Disable

Enable **

Min. Length (2)

Max. Length (60)

Don’t Transmit Start/Stop Characters

Transmit Start/Stop Characters **

Note: Start & Stop Characters are: A、B、C and D

Turn -off

Turn-on

8.10 CODE93

Set All Default **

Disable

Enable **

Min. Length (1)

Max. Length (48)

8.11 UCC/EAN-128 setting

Set All Default **

Disable

Enable **

Turn -off

Turn-on

Chapter 9 2D Symbologies Setup

All available 2D bar codes are: PDF417、QR Code、Aztec、Chinese Information Code and DataMatrix。

Message Length

In order to reduce the chances of a misread, the best way is to predefine data length in advance. Please scan below bar code Setup to define both minimum length and maximum length according to your requirements. And pay attention to the following notes:

1. Both minimum and maximum lengths must not be zero.

2. Minimum length should be smaller than maximum length.

3. If both minimum length and maximum lengths are the same, read one length only.

4. The maximum length for any 2D bar code should be not more than 65535. 5.

“Save” is required after reading the code above.

Turn -off

Turn-on

9.1 Macro

Mode1：Transmit right after scan

Mode2：Transmit according to code sequence, small number will transmit first, system will automatically accumulate information to want previous number. The memory buffer is 64kbyte

Mode3：Read all bar codes in memory buffer, and then send out at once. The maximum buffer is 64kbyte

Mode1

Mode2

Mode3 **

Delete the Data of Macro Buffer

Turn -off

Turn-on

9.2 PDF417

Set All Default **

Disable

Enable **

Message Length

In order to reduce the chances of a misread, the best way is to predefine data length in advance. Please read below bar code Setup to define both minimum length and maximum length according to your requirements. And pay attention to the following notes:

1. Both minimum and maximum lengths must not be zero.
2. Minimum length should be smaller than maximum length.
3. If both minimum length and maximum lengths are the same, read one length only.
4. The maximum length for any 2D bar code should be not more than 65535. 5.

"Save" is required after reading the code above.

e.g.: Decode only those bar codes with 8 to 12 characters.

Min. Length = 8 Max. Length = 12

Step 1: Find the bar code type
Step 2: scan "Min. Length"
Step 3: scan "8", see Appendix A
Step 4: scan "Save"
Step 5: san "Max. Length"
Step 6: scan "1", "2" and "Save"

Min. Length (1)

Max. Length (2710)

Turn -off

Turn-on

9.3 QR Code

Set All Default **

Disable

Enable **

Message Length

In order to reduce the chances of a misread, the best way is to predefine data length in advance. Please read below bar code Setup to define both minimum length and maximum length according to your requirements. And pay attention to the following notes:

6. Both minimum and maximum lengths must not be zero.
7. Minimum length should be smaller than maximum length.
8. If both minimum length and maximum lengths are the same, read one length only.
9. The maximum length for any 2D bar code should be not more than 65535.
10. “Save” is required after reading the code above.

e.g.: Decode only those bar codes with 8 to 12 characters.

Min. Length = 8 Max. Length = 12

Step 1: Find the bar code type
Step 2: scan “Min. Length”
Step 3: scan “8”, see Appendix A
Step 4: scan “Save”
Step 5: san “Max. Length”
Step 6: scan “1”, “2” and “Save”

Min. Length (1)

Max. Length (7098)

Turn -off

Turn-on

Double QR code setting

Double QR code: 2 parallel QR codes vertical or horizontal

Double QR code setting includes: read single QR code only, read Double QR codes only, and read both types.

Read single QR code only: device read only one row of QR code at a time.

Read Double QR codes only: On a map, device must be detected two QR code and decoding success, then sent decoding information,

Both types: On a map, when device detected Double QR codes and decoding success, then sent decoding information, or else Read single QR code.

Read single QR code only **

Read Double QR codes only

Both types

Turn -off

Turn-on

9.4 Aztec

Set All Default **

Disable

Enable **

Message Length

In order to reduce the chances of a misread, the best way is to predefine data length in advance. Please read below bar code Setup to define both minimum length and maximum length according to your requirements. And pay attention to the following notes:

11. Both minimum and maximum lengths must not be zero.
12. Minimum length should be smaller than maximum length.
13. If both minimum length and maximum lengths are the same, read one length only.
14. The maximum length for any 2D bar code should be not more than 65535.
15. "Save" is required after reading the code above.

e.g.: Decode only those bar codes with 8 to 12 characters.

Min. Length = 8 Max. Length = 12

Step 1: Find the bar code type
Step 2: scan "Min. Length"
Step 3: scan "8", see Appendix A
Step 4: scan "Save"
Step 5: san "Max. Length"
Step 6: scan "1", "2" and "Save"

Min. Message Length(Default 1)

Max. Message Length(Default 3832)

Turn -off

Turn-on

9.5 DataMatrix

Set All Default **

Disable

Enable **

Message Length

In order to reduce the chances of a misread, the best way is to predefine data length in advance. Please read below bar code Setup to define both minimum length and maximum length according to your requirements. And pay attention to the following notes:

16. Both minimum and maximum lengths must not be zero.
17. Minimum length should be smaller than maximum length.
18. If both minimum length and maximum lengths are the same, read one length only.
19. The maximum length for any 2D bar code should be not more than 65535.
20. “Save” is required after reading the code above.

e.g.: Decode only those bar codes with 8 to 12 characters.

Min. Length = 8 Max. Length = 12

Step 1: Find the bar code type
Step 2: scan “Min. Length”
Step 3: scan “8”, see Appendix A
Step 4: scan “Save”
Step 5: san “Max. Length”
Step 6: scan “1”, “2” and “Save”

Min. Length (1)

Max. Length (3116)

Turn -off

Turn-on

Double DataMatrix setting

Double DataMatrix: 2 parallel DataMatrixs vertical or horizontal

Double DataMatrix setting includes: read single DataMatrix only, read Double DataMatrixs only, and read both types.

Read single DataMatrix only: device read only one row of DataMatrix at a time.

Read Double DataMatrixs only: On a map, device must be detected two DataMatrix and decoding success, then sent decoding information,

Both types: On a map, when device detected Double DataMatrix and decoding success, then sent decoding information, or else Read single DataMatrix.

Read single DataMatrix only **

Read Double DataMatrixs only

Both types

Turn -off

Turn-on

9.6 Chinese Information Code

Set all default **

Disable **

Enable

Message Length

In order to reduce the chances of a misread, the best way is to predefine data length in advance. Please read below bar code Setup to define both minimum length and maximum length according to your requirements. And pay attention to the following notes:

21. Both minimum and maximum lengths must not be zero.
22. Minimum length should be smaller than maximum length.
23. If both minimum length and maximum lengths are the same, read one length only.
24. The maximum length for any 2D bar code should be not more than 65535.
25. “Save” is required after reading the code above.

e.g.: Decode only those bar codes with 8 to 12 characters.

Min. Length = 8 Max. Length = 12

Step 1: Find the bar code type
Step 2: scan “Min. Length”
Step 3: scan “8”, see Appendix A
Step 4: scan “Save”
Step 5: san “Max. Length”
Step 6: scan “1”, “2” and “Save”

Min. Length (1)

Max. Length (7827)

Turn -off

Turn-on

9.7 User-defined 2D barcode setting

IT only works on EM2100/EM2200/EM3000/EM2027/HR200. User-defined Imaging software and UIMG should be integrated to use the setting. The default configuration is user-defined.

Set all default **

Disable **

Enable

Turn -off

Turn-on

Chapter 10 OCR Setup

10.1 SPEC_OCR_B

Set All Default **

Disable **

Enable

This OCR-B reading only support 9 OCR-B digital characters, which is provided by IMG and with prefix

Chapter 11 How to produce a batch command code

Users can do batch command setup on devices.

11.1 How to build a batch command

Batch command can contain many commands. Each command is divided by semicolon. Batch command must be ended with save command.

Command structure: command (+ equal mark + setting information) The setting command list is provided below

There are 4 setting command modes

(1) Setting syntax 1: Command

The most command is the one can be set at one time without the command.

e.g.:

The command setting the baud rate as 38400 bps: 0100060

The command setting auto barcode reading: 0302010

(2) Setting syntax 2: Command + equal mark + number

This command is used for setting the value of parameter, including the longest and shortest length of the barcode, barcode reading delay setting, same delay time setting, sensitive value setting, barcode reading times setting, non-standard parameter, etc.

e.g.:

The command setting the delay of barcode reading as 3000ms: 0313000 = 3000 The command setting the sensitive value as 10: 0312040 = 10

(3) Setting syntax 3: command + equal mark + hex (e.g., 0x101a , 0x2C03)

This command can be used as setting the user-defined prefix, user-defined suffix, ending suffix, CodeID, increase or cancel the barcode length value, information intercepting, etc. Note: every two hexes in the command stand for a setting character

e.g.:

Append the fixed length 4 of interleaved 2of 5 to 26: 0405160 = 0x041a

Setting the suffix information of the ending as CR/LF: 0310000 = 0x0d0a

(4) Setting syntax 4: command + equal mark+ double quotation marks

If the setting information is viewable character, then this mode of setting is appropriate.

e.g.:

The command setting the user-defined prefix information as AUTO-ID : 0300000 = “AUTO-ID”

Turn -off

Turn-on

11.2 Produce setting code

Make the command list (ended with save command) to a PDF417, QR code or DataMatrix.

For example, to produce a batch command means: light Always On, Auto Scan, change delay time to 2 seconds, Disable Fixed Length of I 2 of 5. Firstly find commands as follows

0200030; (light Always On)

0302010; (Auto Scan)

0313000 = 2000; (change delay time to 2 seconds)

0405140; (Disable Fixed Length of I 2 of 5)

0000160; (Save)

The batch setting code (PDF417) is as follow,

11.3 Use batch setting code

Read “Turn on setting code”, then read “enable batch setting code”, and then read the batch setting code produced in chapter 11.2. Read “Turn off setting code”

Turn on setting code

----------〉

Enable batch setting code

--------〉

Batch setting code

----------〉

Turn off setting code

Chapter 12 ASCII TABLE

HEX	Character	HEX	Character	HEX	Character	HEX	Character
00	NUL	20	SP	40	@	60	`
01	SOH	21	!	41	A	61	a
02	STX	22	“	42	B	62	b
03	ETX	23	#	43	C	63	c
04	EOT	24	$	44	D	64	d
05	ENQ	25	%	45	E	65	e
06	ACK	26	&	46	F	66	f
07	BEL	27	’	47	G	67	g
08	BS	28	(	48	H	68	h
09	HT	29	)	49	I	69	I
0A	LF	2A	*	4A	J	6A	j
0B	VT	2B	+	4B	K	6B	k
0C	FF	2C	,	4C	L	6C	l
0D	CR	2D	-	4D	M	6D	m
0E	SO	2E		4E	N	6E	n
0F	SI	2F	/	4F	O	6F	o
10	DLE	30	0	50	P	70	p
11	DC1	31	1	51	Q	71	q
12	DC2	32	2	52	R	72	r
13	DC3	33	3	53	S	73	s
14	DC4	34	4	54	T	74	t
15	NAK	35	5	55	U	75	u
16	SYN	36	6	56	V	76	v
17	ETB	37	7	57	W	77	w
18	CAN	38	8	58	X	78	x
19	EM	39	9	59	Y	79	y
1A	SUB	3A	:	5A	Z	7A	z
1B	ESC	3B	;	5B	[	7B	{
1C	FS	3C	<	5C	\	7C	|
1D	GS	3D	=	5D	]	7D	}
1E	RS	3E	>	5E	^	7E	~
1F	US	3F	?	5F	_	7F	DEL

Chapter 13 A contrast list of default for CodeID and AIM

Type of Barcode	Code ID	Hex	AIM ID	Hex
CODE128	j	6A	C	43
UCC/EAN-128	j	6A	C	43
UPC-E	c	63	E	45
UPC-A	c	63	E	45
EAN-8	d	64	E	45
EAN-13	d	64	E	45
INTERLEAVED 2 OF 5	e	65	I	49
ITF14	e	65	I	49
ITF6	e	65	I	49
MATRIX25	e	65	I	49
CODE39	b	62	A	41
FULLASCII39	b	62	A	41
CODABAR	a	61	F	46
CODE93	i	69	G	47
PDF417	r	72	L	4C
QR	s	73	Q	51
DATAMATRIX	u	75	d	6D
Aztec	z	7A	z	7A
Chinese Information Code	h	68	X	58

Chapter 14 Keyboard Country

Country	NO.	Country	NO.
U.S(default)	0	Norway	15
Belgium	1	Poland	16
Brazil	2	Portugal	17
Canada(French)	3	Romania	18
Czechoslovakia	4	Russia	19
Denmark	5	SCS	20
Finland(Sweden)	6	Slovakia	21
France	7	Spain	22
Germany/Austria	8	Sweden	23
Greece	9	Switzerland(German)	24
Hungary	10	Turkey F	25
Israel(Hebrew)	11	Turkey Q	26
Italy	12	U.K	27
Latin-American	13	Japan	28
Netherlands(Dutch)	14		

Chapter 15 A contrast list of barcode and serial number

Barcode	NO。	Barcode	NO。
Code128	002	Codabar	015
UCC/EAN128	003	Code93	017
EAN-8	004	PDF417	032
EAN-13	005	QR Code	033
UPC-E	006	Aztec	034
UPC-A	007	DataMatrix	035
Interleaved 2 OF 5	008	Chinese Information Code	039
China Post25	011	SPEC_OCR_B	064
Code39	013		

Chapter 16 Configuration Commands list

16.1 Hex Numbers and Overall Setup

Selection	Command	Definition	Note
Hex Number	0000000	0	
	0000010	1	
	0000020	2	
	0000030	3	
	0000040	4	
	0000050	5	
	0000060	6	
	0000070	7	
	0000080	8	
	0000090	9	
	0000100	A	
	0000110	B	
	0000120	C	
	0000130	D	
	0000140	E	
	0000150	F	
	0000160	Save The Setting	
	0000170	Cancel One Data Of Current Setting	
	0000180	Cancel One String Of Current Setting	
	0000190	Cancel Current Setting	
Overall Setup	0001000	Set All Default	Default
	0001010	Set All Bar Codes Disable	
	0001020	Set All Bar Codes Enable	
	0001030	Set All 1D Bar Codes Disable	
	0001040	Set All 1D Bar Codes Enable	
	0001050	Set all 2D Bar Codes Disable	
	0001060	Set All 2D Bar Codes Enable	
	0001070	1D barcode read single code only	
	0001080	1D barcode read both parallel and single	
	0001090	1D barcode read parallel code only	
	0001110	Enable user-defined batch setting	
	0001130	Enable device ESN number setting	
	0001150	Save current setting to be default	
	0001160	Resume user-defined default setting	
Double-1D Setup	0001070	1D barcode read single code only	Default
	0001080	1D barcode read both parallel and single	
	0001090	1D barcode read parallel code only	
Message of setting code to send Setup	0002000	Don't Transmit	Default
	0002010	Transmit	
Send System Message	0003000	Send System Message	
Setting code Selection	0006000	Off	Default
	0006010	On	
Message of system to send Setup	0007000	Don’t display when power on	Default
	0007010	Display when power on	

16.2 Communication

Selection	Command	Definition	Note
Communication type	1100000	RS232	Default
	1100010	USB-DataPipe	Only for EM2027 and HR200
	1100020	HID-KBW	Only for EM1030 , EM2027 and HR200
	1100040	BlueTooth	Only for HR200
	1100060	USB COM Port Emulation	Only for EM2027 and HR200
RS232	0100000	Baud Rate ：1200 bps	
	0100010	Baud Rate ：2400 bps	
	0100020	Baud Rate ：4800 bps	
	0100030	Baud Rate ：9600 bps	Default
	0100040	Baud Rate ：14400 bps	Invalid in some devices
	0100050	Baud Rate ：19200 bps	
	0100060	Baud Rate ：38400 bps	
	0100070	Baud Rate ：57600 bps	
	0100080	Baud Rate ：115200 bps	
	0101000	Verify code：no verify	Default
	0101010	Verify code：even verify	
	0101020	Verify code：odd verify	
	0102000	Stop code：one stop	Default
	0102010	Stop code：two stops	
	0103000	Data code：5 digits	
	0103010	Data code：6 digits	
	0103020	Data code：7 digits	
	0103030	Data code：8 digits	Default
HID-KBW	1103000	Set keyboard for languages	
	1103010	Caps Lock off	Default
	1103020	Caps Lock on	
	1103030	Unknown Characters Beep off	Default
	1103031	Unknown Characters Beep on	
	1103040	No Case Conversion	Default
	1103041	Convert All to Upper Case	
	1103042	Convert All to Lower Case	
	1103050	Disable USB Keystroke Delay	Default
	1103051	USB Keystroke Delay for 20ms	
	1103052	USB Keystroke Delay for 40ms	
	1103060	Disable Keypad Emulation	Default
	1103061	Enable Keypad Emulation	
	1103110	Numeric Keypad off	Default
	1103120	Numeric Keypad on	
	1103130	Ctrl+ASCII Mode off	Default
	1103140	Ctrl+ASCII Mode on	
BlueTooth	1105000	Reset	
	1105010	Device name setup	Up to 16 characters
	1105020	Turn off password verify	
	1105021	Turn on password verify	Default
	1105022	Password setup	Up to 6 characters

16.3 Hardware Setup

Selection	Command	Definition	Note
Light Selection	02000003	LED Flash When Scan	Default
	02000101	LED Always On	
	02000200	LED Always Off	
	02000301	LED On When Scan	
Aiming Selection	0201000	LED Flash When Scan	Default
	0201010	LED Always On	
	0201020	LED Always Off	
	0201030	Sensor mode	
Decoding Voice Selection	0203000	OFF	
	0203010	ON	Up to 16 characters

16.4 Data Format

Selection	Command	Definition	Note
All Prefix Or Suffix Enable Selection	0311000	Disable All Prefix And Suffix	Default
	0311010	Enable All Prefix And Suffix	
prefix order	0317000	CodeID+AIM+ Self-Prefix	Default
	0317010	CodeID+ Self-Prefix +AIM	
	0317020	AIM+CodeID+ Self-Prefix	
	0317030	AIM+ Self-Prefix +CodeID	
	0317040	Self-Prefix +CodeID+AIM	
	0317050	Self-Prefix +AIM+CodeID	
Self-Prefix Selection	0305000	Disable Self-Prefix	Default
	0305010	Enable Self-Prefix	
	0300000	Set Message Of Self-Prefix	
Self-Suffix Selection	0306000	Disable Self-Suffix	Default
	0306010	Enable Self-Suffix	
	0301000	Set Message Of Self-Suffix	
AIM	0308000	Don't Add AIM-Prefix To Decoding Result	Default
	0308010	Add 1 AIM-Prefix Character To Decoding Result	
	0308020	Add 2 AIM-Prefix Characters To Decoding Result	
	0308030	Add all AIM-Prefix Characters To Decoding Result	
CodeID	0307000	Disable CodeID	Default
	0307010	Enable CodeID	
	0307020	All Barcode use default CodeID	
1D CodeID	0004020	Code128	
	0004030	UCC/EAN-128	
	0004040	EAN-8	
	0004050	EAN-13	

Selection	Command	Definition	Note
1D CodeID	0004060	UPC-E	
	0004070	UPC-A	
	0004080	Interleaved 2 of 5	
	0004110	China Post 25	
	0004130	Code39	
	0004150	Codabar	
	0004170	Code93	
2D CodeID	0005000	PDF417	
	0005010	QR Code	
	0005020	Aztec	
	0005030	DataMatrix	
	0005070	Chinese Information Code	
Data Packed Selection	0314000	Set Data Unpacked	Default
	0314010	Set Data Packed	
Intercept message	0315000	Disable	Default
	0315010	Enable	
	0316000	Set Intercept message Mode	
Terminator Selection	0309000	Disable Terminator	Default
	0309010	Enable Terminator	
	0310000	Set Message Of Terminator	

16.5 Decoding Mode

Selection	Command	Definition	Note
Reading mode	0302000	trigger	Default
	0302010	Auto scan	
	0302020	Continue scan	
Sensibility	0312000	Set Sensibility Low	
	0312010	Set Sensibility Normal	
	0312020	Set Sensibility High	Default
	0312030	Set Sensibility Higher	
	0312040	Set value of Sensibility	Default Value Is 2 , max value is 20
Delay time	0313000	Set Delay Of Reading	Default Value Is 2s
	0313010	Set No Duplicate Reading time	Default Value Is 1.5s
	0313020	Incompletely delay	Default
	0313030	Completely delay	
Vibration motor control	1216000	Turn off	Default
	1216010	Turn on	
	1216020	Set time of vibration	0~20000(ms)

16.6 1D Symbologies Setup

Selection	Command	Definition	Note
Code128	0400000	Set Code128 All Default	Default
	0400010	Disable	
	0400020	Enable	Default
	0400030	Set The Min Message Length Value	Default Value Is 1
	0400040	Set The Max Message Length Value	Default Value Is 48
UCC/EAN-8	0401000	Set EAN-8 All Default	Default
	0401010	Disable	
	0401020	Enable	Default
	0401030	Don't Transmit Check Character	
	0401040	Transmit Check Character	Default
	0401050	2 Digit Addenda OFF	Default
	0401060	2 Digit Addenda ON	
	0401070	5 Digit Addenda OFF	Default
	0401080	5 Digit Addenda ON	
	0401090	Don't Expand To EAN-13	Default
	0401100	Expand To EAN-13	
EAN-13	0402000	Set EAN-13 All Default	Default
	0402010	Disable	
	0402020	Enable	Default
	0402030	Don't Transmit Check Character	
	0402040	Transmit Check Character	Default
	0402050	2 Digit Addenda OFF	Default
	0402060	2 Digit Addenda ON	
	0402070	5 Digit Addenda OFF	Default
	0402080	5 Digit Addenda ON	
UPC-E	0403000	Set UPC-E All Default	Default
	0403010	Disable	
	0403020	Enable	Default
	0403030	Don't Transmit Check Character	
	0403040	Transmit Check Character	Default
	0403050	2 Digit Addenda OFF	Default
	0403060	2 Digit Addenda ON	
	0403070	5 Digit Addenda OFF	Default
	0403080	5 Digit Addenda ON	
	0403090	Don't Transmit Precursor '0'	Default
	0403100	Transmit Precursor '0'	
	0403110	Don't Expand To UPC-A	Default
	0403120	Expand To UPC-A	
UPC-A	0404000	Set UPC-A All Default	Default
	0404010	Disable	
	0404020	Enable	Default
	0404030	Don't Transmit Check Character	
	0404040	Transmit Check Character	Default
	0404050	2 Digit Addenda OFF	Default
	0404060	2 Digit Addenda ON	
	0404070	5 Digit Addenda OFF	Default
	0404080	5 Digit Addenda ON	
	0404090	Don't Transmit Precursor '0'	Default
	0404100	Transmit Precursor '0'	

Selection	Command	Definition	Note
Interleaved 2 of 5	0405000	Set Interleaved 2 Of 5 All Default	Default
	0405010	Disable	
	0405020	Enable	Default
	0405030	Set The Min. Message Length	Default Value Is 4
	0405040	Set The Max. Message Length Value	Default Value Is 80
	0405050	No Check Digit	Default
	0405060	Validate Check Digit, But Don't Transmit	
	0405070	Validate Check Digit, and Transmit	
	0405080	Set ITF14 Disable	Default
	0405090	Set ITF14 Enable, But Don't Transmit Check Digit	
	0405100	Set ITF14 Enable And Transmit Check Digit	
	0405110	Set ITF6 Disable	Default
	0405120	Set ITF6 Enable, But Don't Transmit Check Digit	
	0405130	Set ITF6 Enable And Transmit Check Digit	
	0405140	Set Interleaved 2 Of 5 Fixed Message Length Disable	Default
	0405150	Set Interleaved 2 Of 5 Fixed Message Length Enable	
	0405160	Set Interleaved 2 Of 5 Fixed Message Length Value	
	0405170	Cancel Define Fixed Length (range)	
China Post 25	0406000	Set China Post All Default	Default
	0406010	Disable	Default
	0406020	Enable	
	0406030	Set The Min. Message Length Value	Default Value Is 4
	0406040	Set The Max. Message Length Value	Default Value Is 80
	0406050	No Check Digit	Default
	0406060	Validate Check Digit, But Don't Transmit	
	0406070	Validate Check Digit, and Transmit	
Code39	0408000	Set Code39 All Default	Default
	0408010	Disable	
	0408020	Enable	Default
	0408030	Set The Min. Message Length Value	Default Value Is 1
	0408040	Set The Max. Message Length Value	Default Value Is 48
	0408050	No Check Digit	Default
	0408060	Validate Check Digit, But Don't Transmit	
	0408070	Validate Check Digit, and Transmit	
	0408080	Don't Transmit Start/Stop Characters	
	0408090	Transmit Start/Stop Characters	Default
	0408100	Set FULLASCII39 Disable	Default
	0408110	Set FULLASCII39 Enable	
Codabar	0409000	Set Codabar All Default	Default
	0409010	Disable	
	0409020	Enable	Default
	0409030	Set The Min. Message Length Value	Default Value Is 2
	0409040	Set The Max. Message Length Value	Default Value Is 60
	0409080	Don't Transmit Start/Stop Characters	
	0409090	Transmit Start/Stop Characters	Default
Code93	0410000	Set Code93 All Default	Default
	0410010	Disable	
	0410020	Enable	Default
	0410030	Set The Min. Message Length Value	Default Value Is 1
	0410040	Set The Max. Message Length Value	Default Value Is 48
UCC/EAN-128	0412000	Set UCC/EAN-128 All Default	Default
	0412010	Disable	
	0412020	Enable	Default

16.7 2D Symbologies Setup

Selection	Command	Definition	Note
Macro	0500000	Delete The Data Of Buffer	
	0500010	Mode 1 ：Transmit The Block's Data Directly After Reading	
	0500020	Mode 2 ：Transmit The Data Base On Reading Order（The Saving Data Can't Be Larger Than 64k Byte），viz. When The Blocks Whose Connection Numbers Are Less Than The Current Block's, The Data Which Has Been Connected Will Be Transmitted (Including The Current Block)	
	0500030	Mode 3：Connect After Reading All Data Blocks, If The Data Is Larger than 64k Byte, The Data Would Be Transmitted By Mode 2	Default
PDF417	0501000	Set PDF417 All Default	Default
	0501010	Disable	
	0501020	Enable	Default
	0501030	Set The Min. Message Length Value	Default Value Is 1
	0501040	Set The Max. Message Length Value	Default Value Is 2710
QR Code	0502000	Set QR All Default	Default
	0502010	Disable	
	0502020	Enable	Default
	0502030	Set The Min. Message Length Value	Default Value Is 1
	0502040	Set The Max. Message Length Value	Default Value Is 7089
	0502070	Read single QR code only	Default
	0502080	Read Double QR codes only	
	0502090	Both types	
Aztec	0503000	Set Aztec All Default	Default
	0503010	Disable	
	0503020	Enable	Default
	0503030	Set The Min. Message Length Value	Default Value Is 1
	0503040	Set The Max. Message Length Value	Default Value Is3832
DataMatrix	0504000	Set DataMatrix All Default	Default
	0504010	Disable	
	0504020	Enable	Default
	0504030	Set The Min. Message Length Value	Default Value Is 1
	0504040	Set The Max. Message Length Value	Default Value Is 3116
	0504070	Read single DataMatrix only	Default
	0504080	Read Double DataMatrixs only	
	0504090	Both types	
Chinese Information Code	0508000	Set Chinese Information Code All Default	
	0508010	Disable	Default
	0508020	Enable	
	0508030	Set The Min. Message Length Value	Default Value Is 1
	0508040	Set The Max. Message Length Value	Default Value Is 7827
User-defined 2D barcode	0510000	Set all default	Default
	0510010	Disable	Default
	0510020	Enable	

16.8 OCR Setup

Selection	Command	Definition	Note
SPEC_OCR_B	0600000	Set SPEC_OCR_B All Default	Default
	0600010	Disable	Default
	0600020	Enable	

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